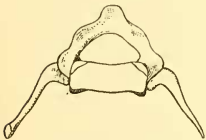


NOTE ON AN ECHIDNA WITH EIGHT CERVICAL
VERTEBRÆ.

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In a paper communicated to this Society on the muscles of the shoulder girdle in the Monotremes, Dr. W. J. S. McKay* has shown how very variable *Echidna* is in regard to the number of its dorsal, lumbar, sacral, and caudal vertebræ. In a series of sixteen specimens there were found no fewer than eleven different arrangements of the vertebræ; while in a seventeenth specimen there was a rib more on the right side than on the left, and yet the formula of neither side agreed with that of any of the other sixteen specimens. The dorsals vary from 14 to 17; the lumbar from 2 to 4; the sacrals from 3 to 4; and the caudals from 10 to 14. All the specimens agreed, however, in having 7 cervical vertebræ.

On recently looking over some of my *Echidna* specimens to see if I could find any distinct reptilian characters in the cervical vertebræ, I was somewhat surprised to come across a specimen in which the eighth vertebra, which ought to have been the first dorsal, is provided with a pair of quite rudimentary ribs, and to be thus really a cervical vertebra.



The vertebra closely resembles the normal first dorsal—differing from the cervicals in the greater length of the spine and in being provided both in front and behind with well developed

* W. J. Stewart McKay, "The Morphology of the Muscles of the Shoulder-girdle in Monotremes." P.L.S.N.S.W., 1894, ix. p. 265.

zygapophyses. The dorsal vertebræ in *Echidna* usually have the arches perforated for the passage of the spinal nerves, but this character is generally absent in the first dorsal, and in one specimen in my possession is absent in the first five dorsals. In this abnormal eighth vertebra there is no indication of a perforation in the arch or even of a distinct notch for the nerve.

In *Echidna*, as in *Ornithorhynchus*, the ribs have almost completely lost the double-headed character so well seen in their Theriodont ancestors and retained in the large majority of mammals. In the first rib there is usually an indication of the double-headed condition. In this abnormal eighth vertebra there is no difficulty in recognising the double articulation of the rib with the centrum and with the transverse process. Usually the first rib articulates not only with the first dorsal, but also with the seventh cervical vertebra; the short ribs of this specimen articulate with the eighth vertebra alone.

The rib of the right side tapers to a point, but the left rib is slightly dilated at the end and forms an articulation with the side of the first fully developed rib.

The rib of the ninth vertebra, which is the first to meet the sternum, does not articulate with the anterior broad part of the manubrium sterni as normally, but with its hinder part, almost as the second rib does usually.

The specimen is interesting as showing that even the cervicals may be subject to variation in this genus where variability seems to be so very common.